DEPARTMENTAL COMMITTEE ON MORPHINE AND HEROIN ADDICTION (ROLLESTON) 1926

MINUTE OF APPOINTMENT OF THE COMMITTEE

I hereby appoint
Sir HUMPHRY D. ROLLESTON., Bart., K.C.B., M.D., P.R.C.P.,
Sir WILLIAM WILLCOX, K.C.I.E., C.B., C.M.G., M.D., F.R.C.P.,
J.W. BONE, Esq., M.B., C.M.. B.Sc.,
R. W. BRANTHWAíTE. Esq., C.B., M.D., D.P.H.,
Professor, W. E. DIXON, M.A., M.D.. F .R.S.,
JOHN FAWCETT, Esq., M.D., F.R.C.P.,
A. FULTON, Esq., M.B.. B.C.,
J. SMITH WHITAKER, Esq., M.R.C.S., L.R.C.P.,

to be a Committee to consider and advise as to the circumstances, if any, in which the supply of morphine and heroin (including preparitions containing morphine and heroin to persons suffering from addiction to those drugs may be regarded as medically advisable, and as to the precautions which it is desirable that medical practitioners administering or prescribing morphin or heroin should adopt for the avoidance of abuse, and to suggest any administrative measures that seem expedient for securing observance of such precautions.

I hereby further Appoint Sir Humnphry D. Rolleston to be Chairman, and E. W. Adams, Esq., O.B.E., M.D., and R.H.Crooke, Esq., to be Secretaries of the Committee.

(Signed) JOHN 'WHEAT LEY .
30th September, 1924,

I hereby extend the Terms of Reference to the Committee as follows :-
To consider and advise whether it is expedient that any or all preparations which contain morphine or heroin of a percentage lower than that specified in the Dangerous Drugs Acts should be brought within the provisions if the Acts and Regulations and, if so, under what conditions.

(Signed) NEVILLE CHAMBERLAIN.
12th February, 1925.

DEPARTMENTAL COMMITTEE ON MORPHINE AND HERON ADDICTION.
REPORT. To The Right Hon. NEVILLE CHAMBERLAIN, P.C., M.P.. MINISTEROF HEALTH.
1. We, the Committee appointed by your predecessor's minute of 30th September, 1924, have the honour to submit the following report on the subjects therein referred to us. namely : --

"To consider and advise as to the circumstances, if any, in which the supply of morphine and heroin (including preparations containing morphine and heroin) to persons suffering from addiction to those drugs may be regarded as medically advisable, and as to the precautions which it is desirable that medical practioners administeringing or prescribing morphine or heroin should adopt for the avoidance of abuse, and to suggest any administrative measures that seem expedient for securing observance of such precautions " ,

as well as on the subject, subsequently referred to us on 12th February, 1925, in accordance with the suggestion of the Committee, namely :-

" To consider and advise whether it is expedient that any or all preparations which contain morphine or heroin of a percentage lower than that specified in the Dangerous Drugs Acts should be brought within the provisions of the Acts and Regulations and if so, under what conditions."

2. We have held 23 meetings, at 17 of which we took oral evidence. A list of the witnesses is given in an Appendix.

3. The matters referred for our consideration appear to fall under four main heads, namely :--
(i) the circumsstauces, if any. in which it may be medically advisable to administer morphine or heroin to a person known to be suffering from addiction to these drugs ;
(ii} the precautions which medical practitioners ought to adopt in administering these drugs, both generally and with particular reference, to persons suffering from such addiction:
iii) the administrative measures, if any, which we might think it advisable to recommend to secure due observance of such precautions;
(iv) the advisability or otherwise of bringing within the scope of the Dangerous Drugs Acts preparations of morphine or heroin containing percentages of the drugs lower than are at present included.

4. Our report is divided into six sections. The first contains certain preliminary observations; the second summarises the results of our inquiries respecting certain medical aspects of the problem of addiction; the remaining four deal , in the order above stated, with particular matters arising under our Terms of Reference.

SECTION I.
PRELIMINARY' OBSERVATIONS.
5. While the subjects on which the Committee was appointed to advise are mainly medical, they also include administrative questions. The main object of our deliberations has been to consider whether or not we should recommend any modifications in the Regulations made under the Dangerous Drugs Drugs Acts which relate to matters falling within the scope of our reference. We have thought it desirable, therefore to preface this report by a short summary of the provisions of the Dangerous Drugs Acts and the Regulations made thereunder and the present system of administration, so far as these bear on the subjects of reference, followed by a statement of certain difficulties which we are informed have been experienced in the course of administration, and which it is hoped that our recommendations may be helpful in overcoming. These statements are based on memoranda placed before us and oral evidence tendered by the Home Office, the Ministry of Health, and the Director of Public Prosecutions.

PROVISIONS 0F THE ACTS AND REGULATIONS AND ADMINISTRATIVE ARRANGEMENTS.

6. The Dangerous Drugs Acts place restrictions on the import, export, manufacture, sale, distribution, supply and possession of the drugs specified therein, which include morphine and heroin and preparations containing these drugs in more than a certain strength; this being 0.2 per cent. in the case of morphine and 0.1 per cent. in the case of heroin. A Secretary of State is empowered to make regulations, subject to the approval of Parliament, that are necessary for carrying the Acts into effect, and Regulations have been made from time to time by the Home Secretary accordingly. Under the Regulations the import, export, manufacture, sale, distribution and supply of the drugs is restricted to persons licensed or authorised for such purposes. Possession is restricted to persons so licensed or authorised, and to persons to whom the drugs are supplied by registered medical pracitioners for the purpose of medical treatment (or by registered vetirinary surgeons for use in the treatment of animals) or supplied by chemists on and in accordance with prescriptions issued by registred medical practitioners (or by registered dentists for local dental treatment, or veterinary surgeons for the treatment of animals.
A registered medical practioner is authorised to be in possession of the drugs and to supply them, so far as is necessary for the practice of his profession. (The qualification contained in the words italicted is of special importance in relation to the matters which it has been our duty to consider.

Medical prescriptions for the drugs must comply with certain requirements as to dating and signature, they mast bear the doctor's address (except in the case of National Health Insurance prescriptions), as well as the name and address of the person for whose use the drug is intended, and the total amount of the drug to be supplied must be specified. The Home Secretary has power, which it has not yet however been thougt desirable to excercise, to require the use of an official form on which prescriptions for Dangerous Drugs should be written.

7. All persons authorised to supply the drugs, including medical practitiorers who dispense medicines for their patients, are requirod to keep records of drugs purchased and issued, but this requirement does not apply to drugs

administered by medical practitioners personally, or under their immediate supervision. Practitioners who do not dispense, and therefore do not supply drugs otherwise than by way of personal administration; are not at present required to keep a record even of their purchases.

8. The records kept by wholesale chemists and by pharmacists are inspected by Home Office Inspectors or by the police; but it was considered preferable that these kept by medical practitioners should be inspected by medical officials, ans such inspection is carried out, on behalf of the Home Office, by the Regional Medical Staff of the Ministry of Health in England and Wales, and by the Medical Staff and District Medical Officers of the Board of Health in Scotland.

9. Through the system of inspection described, the distribution of morphine and heroin imported into or manufactured in the country can be traced and cases are from time to time brought to the notice of the Home Office in which it has been observed that exceptionally large quantities of these drugs have been supplied to particular practitioners, or that individual patients have received unusally large quantities of them on medical prescriptions.

10. As a result of further inquiries in such cases, and in cases brought to notice in other ways, it has been ascertained:-
(i) That in a very small number of cases, medical practitioners have, by their own admission, ordered or supplied Dangerous Drugs, not as a part of medical treatment, but simply to enable persons who had become addicted to the drugs to satisfy their craving;
(ii) That in certain other cases, in which there was no such admission, as circumstances have suggested at least a doubt whether the supply of the drug could be regarded as forming a part of bona fide medical treatment;
(iii) That sometimes practitioners have issued supplies of, or precriptions for, the drugs in unusually large quantities or over long periods, to persons whom they saw only at long intervals, in some cases the drugs, or prescriptions for them, were sent by post;
(iv) That sometimes practitioners have supplied drugs, or prescriptions for drugs, in relative large quantities to persons previously unknown to them, on the ground of some alleged urgent need, e.g., acute pain, and without making any effort to ascertain the name of, and communicate with, the patient's ordinary medical adviser;
(v) That there were cases in which persons had obtained supplies of the drugs from several practitioners concurrently;
(vi) That in some cases large supplies purchased or prescribed by practitioners were found to have been used mainly for adminstration to themselves, it being doubtful if the use of the drug was medically necessary.

11. Difficulties of Action.-- In the light of such cases it has appeared to the Home Office that, in some instances, the drugs were being supplied and used in contravention of the intention of Parliament. namely, that the use of Dangerous Drugs should be confined to that which was necessary for medical treatment. The Home Office, as the Department responsible for carrying out the law in this matter had to consider, first, whether there had been infraction of the intention of the Acts, even if not of the letter of the Regulations at prsent made under the Acts; secondly, in the event of such infraction, what course could be taken, either under the present Regulations, or after appropriate modifications of the Regulations, to secure better observance of the law in future.

12. In most cases, the question whether the law had been broken turned essentially on whether the drugs had been supplied for purposes of medical treatment only, and the Home Office have informedi that in this connection they have found it necessary to consider various points. The first of these was whether it was medically necessary that in any circumstances morphine or heroin should be supplied continuously for long periods to persons who were not suffering from any organic disease for the relief of which such drugs were eesential. They were aware that some eminent physicians, especially in the United States, had expressed the opinion that persons who had become addicted to the use of the drugs could always be cured by sudden withdrawal under proper precautions. At the request of the Home, the Minister of Health had the literature on the subject carefully collated. As a result, the Home Office were advised that even in the United States, where opinion is on the whole more favourable than in this country to this method of treatment, abrupt withdrwawal was advocated in those cases only in which the addict could be treated in an institution and carefully nursed and looked after. No statement by any responsible medical authority had been found to suggest that such a method was practicable in the treatment of an addict under the conditions of ordinary private practice.

In some cases, abrupt deprivation of morphine or heroin might cause not only intense suffering, but even fatal collapse. The method of sudden withdrawal called for close supervision, under expert judgement and skill, and trained nursing. The practicability of the method depended, therefore, on the possibility of inducing the patient to such an institution and institutional treatment is much more difficult to carry out in this country than in the United States, on account of the relative dearth of appropriate institutional accomidation in this country as compared with the United States.

13. Assuming the abrupt withdrawal treatment to be impracticable (even if thought advisable) in a large proportion of the cases of addiction occurring in this country, the question then arose whether this would justify the practice, which had in some cases been observed, of administering morphine or heroin over very long periods in non-diminishing doses. The Home Office assumed that the object of treatment in cases of addiction must be the care, if possible, of this condition, by means of a steady diminution of the dose, with a view to its ultimate complete discontinuance if found practicable. On this assumption, could the observed fact of continuous administration for an indefinite period in undimished doses be regarded as compatible with the end aimed at, or must it be held to constitute evidence, prima facie. that the drugs were not being administered solely for the purposes of medical treatment? Inquiries respecting this point showed that some physicians of great experience in the treatment of such conditions held the view that there were two classes of persons from whom, at all events: under the conditions of ordinary private practice the drugs could not be entirely withdrawn. In one case such attempted complete withdrawal produced severe distress or even risk of life; in the other, experience showed that a certain minimum dose of the drug was necessary to enable the patients to lead useful and relatively normal lives, and that if deprived of this non-progressive dose they became incapable of work.
While this view as to the possible necessity of even life-long administration in certain cases was not universally held, the fact that it was held by some eminent authorities made it difficult to base action on the assumption that continuous administration of non-diminishing doses, for however long a period, was nessarily inconsistent with bona fide medical treatment.

14. A question of another kind required consideration in cases in which doctors supplied or ordered dangerous drugs for persons whom they saw infrequently or for persons whom they saw for the first time, and respecting whom they had no communication from the patient's ordinary medical adviser. In such cases it had to be considered whether the practitioner's opportunities of observation had been sufficient to justify the statement that the drugs were being administered for purposes of treatment in any legitimate sense.

15. In cases in which the conduct of the doctor appeared to call for action of some kind, various courses presented themselves for consideration. The first was that of communication with the doctor, either by a letter from the Home Office, or by instructing a Regional Medical Officer of the Ministry of Health to see him, with a view to elucidating facts, calling attention to the requirements of the Acts, and inducing the practitioner to have due regard to these requirements. Such action has in many cases been followed by beneficial results. Secondly, it would be possible to prosecute doctors in the police court for offences against the Acts, on the ground that they had supplied the drugs or had administered them to themselves, otherwise than for the purpose of medical treatment. Thirdly, it would be open to the Home Office, to bring a case to the notice of the General Medical Council in which, primo facie, it appeared that the doctor's conduct had been such as might be regarded by the Council as "infamous in a professional respect."

16. The Home Office however, were reluctant to take proceedings in either of the two ways last mentioned with regard to cases in which the issue must turn largely on questions of mediical opinion, until various doubtful points had been further elucidated by an inquiry such as this. Moreover, even if it were established that continuous administration of morphine or heroin indefinitely in non-diminshing doses might in some cases constitute proper treatment, it appeared possible that such an inquiry might suggest precautions which should be observed by practitioners during the treatment of such cases or of other cases of addiction. Such an inquiry might also have a valuable ressult in the suggestion of measures which should be adopted in the ordinary use of morphine or heroin in medical practice, with a view to avoiding, so far as possible, the development of addiction.

17. Some cases have raieed questions of the desirability of certain amendments of the Regulations. In the first place, in view of doubts that have arisen, the question is raised of the need for a provision expressly forbidding the issue of prescriptions for Dangerous Drugs except for purposes of medical treatment. Secondly, doctors who

do not themselves dispense, but obtain the drugs for the purpose of personal administration, or administration under their immediate supervision only, are, as has been stated under no obligation tokeep a record even of their purchases. Suspected abuses in the practice of these doctors are therefore in some respects more difficult to deal with than in the case of dispensing doctors, and the Home Office have had under consideration the question whether doctors who do not dispense ought not, nevertheless to be required to keep some simple record of their purchases of Dangerous Drugs. Thirdly, the action of some addicts in obtaining supplies or prescriptions from several doctors concurrently, clearly contravenes the intention of the Acts, and is moreover highly prejudicial to the best interests of the patient. Such cases ar, however difficult to detect, and we have conisdred whether some kind of notification might not be introduced to overcome the dificulty.

18. Lastly, questions of exceptional difficulty have presented themselves in the cases of doctors who are themselves addicts.Owing to the authority possessed by medical practitioners to obtain the drugs in their professional capacity, or to prescribe them for themselves, they do not encounter the same obstacles in obtaining excessive supplies as an ordinary member of the community, who can only obtain them from a doctor, or on a medical prescription. They cannot at present be deprived of their authority to be in possession of the drugs except after a conviction for an offence under the Acts, and a Regulation providing that doctors might not prescribe for themselves was withdrawn by the Home Office on account of the objections raised by the medical profession

19. The Home Offices have asked us to advise in our Report on the various matters mentioned in this Section.

SECTION II
MEDICAL ASPECTS OF THE ADDICTION PROBLEM,
20. In the course of our inquiry we have received a large amount of valuable information upon the nature, causation, and prognosis of addiction.as well as upon upon the different mehods of treatment which have been advocated from to time, In asmuch as such informationhas not heretofore been available in so easily accessible a form, and as there has not previously been so favourable an opportunity of eliciting and collating the opinions of members of the medical profession who have had special experience of the problems of addiction, we thought it well to state the results of our inquiries somewhat fully, for the information of the medical profession and the public, although some of the points dealt with are less germane than others to the main objects of our investigation.
Matters included in this Section of our Report are discussed under the following heads:

(a) Definition of Addiction.
(b) Prevalence.
(c) Nature and Causation
(d)Treatment and at After-care
(e) Prognosis.

(a) DEFINITION
21. There has been some divergence of opinion among the witnesses we have heard as to the best definition of addiction. These differences depend to some extent on differences of opinion as to the causation and nature of the condition commonly known as addiction.
In the present Report the term " addict " is used as meaning a person who, not requiring the continued use of a drug for the relief of the symptoms of organic disease, has acquired, as a result of repeated administration, an overpowering desire for its continuance, and in whom withdrawal of the drug leads to definite symptoms of mental or physical distress or disorder.

(b) PREVALENCE of ADDICTION
22. We have taken evidence on this subject from medical practitioners, representative of several types of experience, who may conveniently be grouped as follows:-
(1) Consulting physicians of wide experience in the treatment of nervous and mental disorders
(2) Medical man who have has special experience in the treatment of addiction.
(3) Medical Officers of Prisons
4. Representative general practioners from various parts of the country, a few of whom have had a relatively wide experience of the treatment of this condition.

In addition we have been supplied by the Ministry of Health with information obtained by the regional Medical Officers from representative general practitioners of wide experience, respecting the prevalence of addiction in the parts of the country with which they are familiar.

23. This evidence has all tended in the same direction, and the collective, effect is remarkably strong in support of the conclusion. that in this country, addiction to morphine or heroin is rare. Some experienced general practitioners have stated that they had never been called upon to treat such cases; others that they have only seen two or three such cases in the course of 20-30 years' practice. As might perhaps be anticipated, the cases appear to be proportionally more frequent in the great urban centres than elsewhere, and persons engaged in occupations which entail much nervous and mental strain are specially liable to be affected. It appears also that a relatively high proportion of cases occurs among those who, by reason of their occupation or otherwise, have special facilities for access to the drugs.

24. There is also a general concurrence of testimony to the effect that addiction has diminished in recent years, most witnesses atributing the decline in the number of cases to the operation of the Dangerous Drugs Acts which have made it difficult to obtain the drugs otherwise than from, or through, doctors. Although sources of illigitimate supply exist, it appears that those who might, in other circumstances, have obtained the drugs from non-me:lical sources are usually lacking in the determination and ingenuity necessary for overcoming the obstacles which the law now places in their way. Thus it would appear that persons who were already addicts when the restriction came into effective operation have been driven to placing themselves under medical care, or in less inveterate cases have been themselves to overcome their infirmity. The effects of the restrictions are even more important in respect of the class of nervously unstable persons by whom addiction is most easily acquired, and who may be designated " potential addicts." When morphine was readily obtainable such persons were prone, on even small provocation of pain mental stress, to seek relief in the drug. purchased on their responsibility, and addiction was thereby quickly developped. Thus the diminution in the number of addicts may be regarded as mainly due to the fact that new addicts are not being created as they were under former conditions. The importance of this conclusion in relation to the administrative aspects of the problem of addiction needs no emphasis, nor does the corollary that the prevention and control of addiction must now rest mainly in the hands of the medical profession since, in the main. it is through them alone that the drug can be obtained.

25. We have also obtained evidence as to the relative prevalence of morphine addiction and heroin addiction respectively. This shows that, in this country, addiction to morphine in any of its forms is much the more common. But this fact would appear to be due to the greater familiarity of the public with morphine preparations, and the much wider use of these than of heroin in medical practice. Of those who take either drug for any purpose a larger proportion of
addicts will be found in the case of heroin than of morphine, and the addiction produced by heroin is the more disastrous in its physical and mental results, and more difficult to cure. In a small number of cases, the drugs are combined, and there are also some cases in which each is used in conjunction with cocaine or with other narcotics.

26. The mode of administration of the drug is of some importance.
In the case of morphine, the evidence shows that hypodermic injection is much more likely than other methods of administration to produce addiction, and that with most addicts it is the favourite method of using the drug. The addiction arising from the hypodermic use of morphine is also more difficult to cure than that arising from other methods of administration.

(c) NATURE AND CAUSATION.
27. The nature and causation of morphine and heroin addiction are so closely associated that they are most conveniently considered together. While there were differences of opinion among the medical witnesses, whom we heard as to the importance of the parts which different causes may play in the production of addiction, there was general agreement that in most well-established cases the condition must be regarded as a manifestation of disease and not as a mere form, of vicious indulgence. In other words, the drug is taken in such cases not for the purpose of obtaining positive pleasure, but in order to relieve a morbid and overpowering craving. The actual need for the drug in extreme cases is in fact so great that when it is not administered great physical distress culminating in actual collapse and even death, may result, unless special precautions are taken such as can only be carried

out under close medical supervision, and with careful nursing. It is true that there is a certain group of persons who take the drugs in the first instance for the sake of a new and pleasurable sensation, e.g., the "underworld" class, who often use heroin for this purpose as a snuff. But even among these a morbid need for the drug is acquired and the use is maintained not so much from the original motive as because of the craving created by the use.

28. The condition of imperative need just described will only be observed after the drug has been taken habitually. The only immediate cause of addiction is the use of the drug for a sufficient time to produce the constitutional condition that is manifested in the overpowering craving and the occurrence of withdrawal symptoms when use is discontinued. Administration of the drug, however, will lead to addiction much more readily in some persons than in others, and the causes of these differences call for examination. Of such predisposing causes most stress was laid upon inherent mental or nervous instability. One eminent witness emphasised the frequency with which inquiry elicited the history of mental disorder of a more or less serious kind in the near relatives of the patient, and believed that a neuropathic heredity could be traced in many of the cases. Some attached such importance to this factor as to believe that not only could it be traced in most cases of addiction, but might reasonably be assumed to have been present in the remainder. In other words, the continuous administration, of the drug would not, they believed, in itself produce addiction in a person whose previous mental and nervous condition was entirely normal. Others, however, while agreeing that persons previously in some degree unstable were more liable than others to become victims of addiction, and furnished the majority of the cases, held that it was possible for a person who had previously appeared free from any indication of mental of nervous instability to become a victim of addiction as the result of prolonged administration of the drug. Moreover, a person whose nervous system is not entirely normal in its working may become an addict through the administration of the drug who would otherwise have escaped. The point is of obvious importance in its bearing on the value of preventive measures, and we therefore feel called upon to state the conclusion to which we think the evidence points, namely that addiction may be acquired by injudicous use of the drug in a person who has not previously shown any manifestation of nervous or mental instability, and that, conversely, due care in administration may avert this consequence even in the unstable.

29. Apart from inherent nervous instability, the liability to addiction as the result of use of the drug may be produced or enhancedi by various conditions which include chronic pain of various kinds especially abdominal, the physical distress caused by such affections as asthma, insomnia, and over-work, anxiety, and other causes of mental distress. Some, indeed, hold that, even in the nervously unstable, one or other of these causes has usually contributed to the production of the habit.

30. The following specific events have been regarded by medical witnesses as having immediately led up to the development of addiction in different cases:-

(i) Use of the drugs in medical treatment.

(ii) Self-treatment for the relief of chronic or recurrent pains or distressing physical conditions, or for the relief of emotional distress.

(iii) Example or influence of others.

(iv) Curiosity, bravado, and search for pleasurable experience

We proceed to discuss these separately.

31. (i) Use of the drug in medical treatment was considred by the witnesses, with but one exception, to have been the immediate cause of addiction in a considerable proportion of the cases they had treated. Some regarded it as the cause in from one-fourth to one half of their cases, and one thought that it accounted for the majority. In some car the original object of administration has been the relief of pain due to various causes.

Some of the witnesses especially insisted that abdominal pain associated as it so often is with mental depression, is the commonest type of pain the relief of which by drugs leads to the formation of a habit. It was generally held (as already stated) that addiction was more likely to supervene when the drug was administered by hypodermic injection than when it was given by the mouth or the rectum, and that the risk was specially great when such injections were repeatedly given in post-operative and accident cases.

32. In many of these cases, it was considered that the drug had been administered injudiciously in various ways,

either as regard to the doses given, or the period for which administration had been continued, or from lack of care to diminish the doses and make the patient independent of the drug before treatment was concluded. Attention was drawn to the special care needed in the medical use of morphine or heroin in the case of the young, in whom the danger of addiction is usually greater than in older patients. On the other hand, one physician of wide experience expressed the view that some practitioners had been too reluctant to administer morphine in adequate doses at a sufficiently early stage in the treatment of painful and other conditions, with the result that when at last it was given the patient was in such distress and so worn out, and the relief obtained so intense, that there was much greater danger than there would otherwise have been of the formation of a habit. "The best way," be stated, " to avoid addiction ensuing from the medicinal employment of morphine, was thoroughly to relieve pain and to treat insomnia, if present.."

33. (ii) Self-treatment for relief of pain, etc., and recourse to the drug in cases of emotinal distress have undoubtedly been common causes in the past, especially, among those whose occupation enabled them to obtain it otherwise than under medical advice Cases, arising in such ways may however, be expected to be less frequent in future, in view of the restrictions which the Dangerous Drugs Acts have now placed on supply.

34. (iii) Influence of other addicts We have received evidence of cases in whivh it was believed that the addict had acquireil the habit through the influence of other addicts, either by way of direct initiation into: the practice or throuzh example. Cases arising from this cause may also be expected to be less commonly met with in future, owing to the gradual dimmution in the number of confirmed addicts, and the lessened facilities for obtaining the drug.

(iv) Vicious indulgence and curiosity. We have alroady mention cases in which the addiction took its origin in the use of the drug through mere curiosity or search for pleasurable sensations. Such cases appear to be exceptional, and may be expected to become even lees prevalent through the operation of the restrictions on supply.

(d) TREATMENT AND AFTERCARE.35. We have heard a considerable amount of evidence as to the relative values of various methods of treatment, which differ chiefly in the rapidity with which the drug of addiction is entirely withdrawn from the patient. The methods of treatment described to us may be stated as follows :--

36. The Abrupt Withdrawal Method. In this method the addiction drug is abruptly cut of and certain remedial measures are adopted to combat the withdrawal symptoms. Among the remedies so employed as auxiliaries are hyoscine, bromides, chloral, alkalies and intensive pargation. Occasionally, a dose of morphine by the mouth is employed to treat impending collapse. Hot baths, particularly at bed time, and massage, are held in great esteem as a useful adjunct by som physicians. In addition to these medicinal adjucts, physical measures such as the regulation of food and exercise and attention to the general health are instituted.

While one witness strongly advocated the use of hycscine as an auxiliary to the treatment by abrupt withdrawal, it was not favoured by other witnesses who had had experience of its employment, and they regarded it as dangerous if pushed to the degree usually considered necessary.

37. The Rapid Withdrawal Method. This method in its essential features differs only from that above described in that the drug, instead of being suddenly withdrawn, is rapidly reduced to zero in the course of a few days. The treatment is assisted, as in the case of abrupt withdrawal, by various ancillary measures, one being the employment of a belladonna., hyoscyamus and xanthoxylum mixture pushed to the point of delirium.

36. The Gradual Withdrawal Method.-- The drug is withdrawn gradually on a systematic plan, and auxiliary treatment by drugs and other agencies is given to suit the needs of particular case's. The actual plan adopted by different experts varies, but there is a broad similarity underlying all the various modifications of the method. The following description gives a good general idea of the procedure adopted. At the outset appropriate measures must be taken to deprive the patient of any secret supplies of the drug which he may have concealed upon his person or in his effects. The first step in treatment is stabilise the amount of drug which the patient receives, both in respect of dose and frequency of administration, which will, in the first instance, usually be hypodermic if the patient has been accustomed to that method of administration. The dose is decided upon after consideration of the circumstances of the case as regards physical state, duration of addiction and customary quantity consumed. The initial dose generously computed, and may be the full dose the patient has accustomed to take; in addition the

patient is assured that he is receiving this quantity. The aggregate daily amount is divided into 3 or 4 doses and is given at regular intervals during the 24 hour -the largest dose being administered just before bed-time. After waiting a few days, the dose of the drug is diminished by a certain proportion (e.g., one-tenth), the reduction effected being such as the experience, of the physician suggests will not be noticed by the patient. The reduction is continued at appropriate intervals by cutting off succesively the same proportion of the dose last given. If at any stage of the treatment the patient appears to be bearing the withdrawal badly, either by reason of the supervention of some minor illness or by reason of mentai distress, the process of reduction is interrupted for a day or two.

When by these means, the dose administered has reached a fairly small amount, the number of doses is altered from 3 or 4 to 2 a day. This alteration is often accompanied by a temporary increase in the total amount given in order to enable the patient to become reasigned to fewer doses; for every effort is made to secure the patient's willing co-operation by sparing him unnecessary inconvenience, and by explaining to him the reasons for the various steps in the treatment. A valuable mental effect is secured by giving the doses, however small they may be, in the same quantity of fluid and, as before the largest dose is given just before. bed-time.

In cases in which the addict has previously used hypodermic injection, some physicians find it advantageous to subtitute oral for hypodermic administration during the later stages of the treatment.

Ultimately, a stage is reached in which none of the drug is being given at all. The patient, however, is not made aware of the actual moment when the drug has been totally withdrawn, for hypodermic injections of innocuous solutions or, when oral administration has been substituted for injection, certain harmless medicaments are continued for e week or two after the withdrawal has taken place. The patient is then surprised to learn that he is no longer taking the drug, and, on realising the position, readily consents to do without further medication.

The intercurrent symptoms which occassionally arise, especially sleeplessness, must be treated on general lines. Some authorities rely upon hypnotic drugs such as bromides, paraldehyde, etc. Much attention, is, of course, also paid to the general health by means of various physical and medicinal measures, and many of our witnesses assign value to intensive purgation in suitable cases.

Various estimates as to the period of reduction were given to us by individual witnesses, and it is evident that the time taken to effect complete withdrawal of the drug must vary according to the age, general condition, and temperament of the patient, the size of the dose taken and the duration of the addiction. The average period of treatment was estimated by one of the wittnesses who had medical charge of a well-known institution for the treatment of drug addiction, at about three months, but he insisted that the patient should remain under reliable supervision for some time afterwards. The most difficult part of the treatment is the reduction of the last half-grain or so to zero point.

39. Relative Value of Different Methods : Certain of the witnesses were strongly in favour of the abrupt withdrawal method, and regarded it as the most reliable or even the only certain means of bringing about an effective and permanent cure. The method was advocated especially by those of our witnesses who were in medical charge of K M. Prisons, and we learned from them that they had experienced no deleterious effects. One of our witnesses also, who was not a prison medical officer, expressed the opinion that the cases in which it was found impossible to reduce the dose below a certain minimum, and necessary therefore to supply this dose for an indefinite period, were cases of persons who had been treated by the gradual reduction method.

Rapid withdrawal, combined with the employment of a belladonna, hyoscyamus and xanthoxylum mixture pushed to the point of delirium, was stated by one of the witnesses to have been attended in his hands by considerable success. Other witnesses, however, informed us that they had been unable to reproduce these favourable results,

40. Opinion was on the whole, strongly in favour of the gradual withdrawal method in prefernce to either of the alternative plans.

The evidence appears to show that it is more generally suitable, and more free from risk than either the abrupt or rapid withdrawal methods. It entails less strain and distress upon the patient, is unattented by collapse, and other withdrawal symptoms may in large measure be prevented by its adoption;

41. Though there was thus a distinct conflict of opinion as to the merits and demerits of the various methods, the following inferences may, we think, be regarded as established :--

(a.) That each patient requires individual consideration.

(b) That abrupt or rapid withdrawal may be advisable in cases of young healthy adults in whom the addiction is

of recent date and only moderate doses are being taken. Otherwise the gradual method is to be preferrred.
(c) That abrupt or rapid withdrawal is specially dangerous in the case of old or seriously debilitated persons, of patients with advanced organic disease, and those who are taking exceptionally large doses.
(d) That abrupt or rapid withdrawal should not be carried out except in a well-appointed institution and with the aid of skilled nursing and constant medical supervision. It is therefore, unavailable for the treatment of those who cannot or will not enter institutions.
(e) That it would be unsafe to draw any conclusions of a general nature from the peculiar success which appears to have attended the prison cases treated by the abrupt method. These persons were confined under close observation and subject to a discipline more strict than could be enforced in any voluntary institution; they received prompt, medical aid in any emergency, and the dose of the drug that had been habitually taken by most of the prison addicts appears to have been comparatively small.

42. It was specially insisted upon by several witnesses that actual withdrawal of the drug of addiction must be looked upon merely as the first stage of treatment, if a complete and permanent cure is to be looked for. As one witness put it, the real gain to the patient by withdrawal of the drug is to enable him to make a fresh start in new and more favourable circumstances, and little more than that can be expected from the actual treatment itself, whatever the method employed. A permanent cure will depend in no small measure upon the after-education of the patient's will power, and a gradual consequent change in his mental outlook. To this end it was regarded as essential by one witness that full use should be made of psychotherapeutic methods, both during the period of treatment and in the re-education of the patient. it was not considered that a lasting cure could be claimed unless the addict had remained free from his craving for a considerable period- 1½ to 3 years after the final withdrawal of the drug. Scarcely less important than psychotherapy, and education of the will is the improvement of the social conditions of the patient, and one physician informed us that he made it a practice, wherever possible, to supplement his treatinent by referring the cases to some Social Service Agency. It was also regarded as important that the physician in charge of the case should, while the patient is under his care, make a thorough study of the causes, pathological and other which originally led the patient to take drugs, and try to readdress them. Pain, insomnia or other physical malady must be treated before the patient is released from observation.

(e) PROGNOSIS
43. Evidence we have received from most of the witnesses forbids any ,sanguine estimate as to the proportion of permanent cures which may be looked for from any method of treatment, however thorough. Relapse, sooner or later, appears to be the rule, and permanent cure the exception. With two exceptions, the most optimistic observers did not claim a higher percentage of lasting cures than from 15 to 20 per cent. One eminent authority, however, who employs the abrupt withdrawal method reinforced by certain auxiliary measures of a drastic character, was of opinion that a real cure may be expected in about 66i per cent of the cases in which the patient is willing to accept treatment: and in whom the treatment is not contraindicated. The witness who had practised the rapid withdrawal method (referred to in paragraph 39) gives a percentage of cures as high as 70 per cent, but other observers who have tried the method have failed to obtain succesful results in such high proportions. In this connection may also be mentioned the remarking results obtained by one of the general practitioner witnesses who, by the employment of the gradual reduction plan, had obtained success in 8 cases out of 12 which he had treated. Some of these cured cases, had been under observation for years and had not relapsed.

44. While therefore, the ultimate outlook in any individual case is always serious it can by no means be considered hopeless and every effort should be made by thorough and suitable treatment to free the patient from his addiction. It must be borne in mind, however, that those witnesses who were most sanguine as to the proportion of permanent cures that could be obtained under the best possible treatment, recognided that, the results they described could only be secured by treatment in institutions. Looking to the small number of such institutions in this country, as well as the cost of the treatment which, reasonable as it usually is, is beyond the means of some of the patients, and the impossibility under the law as it stands, of compelling persons suffering from addiction to become inmates of institutions, it is clear that under present conditions there must be a certain number of persons who cannot be adequately treated, and whom it is impossible
completely to deprive of morphine which is necessary to them for no other reason than the relief of conditions due to their addiction.

SECTION III.

CIRCUMSTANCES IN WHICH IT MAY BE MEDICALLY ADVISABLE TO ADMINISTER MORPHINE OR HEROIN TO PERSONS KNOWN TO BE SUFFERING FROM ADDICTION TO THESE DRUGS.

45. This Section of our Report may conveniently be prefaced by some observations as to the use of morphine or heroin for the relief of pain. etc., due to organic disease, an, such as inoperable cancer. In such cases, the adrninistration of the drug for prolonged periods may, no doubt, produce a cravicng which might persist and develop into an addiction if the disease were cured. .But there can be no question of the propriety of continuing to administer the drug in quantities necessary for relief of the disease, so long as it persists, ignoring for the time being the question, of possible production of addiction. No questions such as are discussed later in this Report would therefore arise in these cases unless and until the conditions calling primarily for administration of the drug were removed. In that event, the addiction remaining would require consideration and treatment in the same way as in any other case of addiction.

46. It is, of course, also necessary for a time to administer morphine or heroin to persons suffering from addiction to these drugs who are under treatment by the gradual reduction method. In such circumstances no question can arise as to the legitimacy of giving the drugs, in pursuit of a definite plan of treatment, in such doses as may be dictated by the experience of the physician. The precautions which it is considered desirable to observe in dealing with such patients are set out in the next Section of this Report.

47. Apart from the cases dealt with in the two preceding paragraphs, we are satisfied that any recommendations for dealing with the problem of addiction at the present time must take account of and make provision for the continued existence of two classes of persons, to whom the indefinitely prolonged administration of morphine or heroin may be necessary :---

(a) Those in whom a complete withdrawal of morphine or heroin produces serious symptoms which cannot be treated satisfactorily under the ordinary conditions of private practice; and .

(b) Those who are capable of leading a fairly normal and useful life so long as they take a certain quantity, usually small. of their drug of addiction, but not otherwise.

48. Most of the witnesses admitted the existence of these two classes of cases, though in some instances with reluctance. Some physicians of great experience believed that if thorough treatment could be carried out in all cases, it would very rarely, if ever, be found necessary to provide any addict with even a minimum ration of drug for an indefinite period. It was recognised, however, even by these witnesses, that under present e conditions it was not possible, for reasons already stated (see, paragraph 44), thoroughly to treat all cases. There must, consequently, remain persons in whom a complete cure cannot be expected.

49. Further, many of the witnesses were of the opinion that, even were it possible to treat thoroughly all cases, there would still exist a certain number of persons who could be grouped in one or other of the two classes above enumerated. When therefore, every effort possible in the circumstances has been made; and made unsuccesfully, to bring the patient to a condition in which he is independent of the drug, it may in the opinion of the majority of the witnesses examined become justifiable in certain cases to order regularly the minimum dose which has been found necessary, either in order to avoid any withdrawal symptoms, or to keep the patient in a condition in which he can lead a useful life. It should not, however, be too lightly assumed in any case, however unpromising it may appear to be at first sight, that an irreducible minimum of the drug has been reached which cannot be withdrawn and which, therefore, must be continued indefintely.

Though the first attempt eritirely, to free a patient from his drug may be a failure, a subsequent one may be succesful. In this connection a paragraph may be usefully quoted from the précis of evidence furnished to us by one of the general practitioner witnesses who has successfully treated several cases of addiction: "I have encountered cases where for a time administration had to be continued on account of physical and mental distress when withdrawal was attempted. In every case as soon as possible, further attempts to get the patient to give up the habit were made. In two cases, for a period of several months, it was necessary to continue administration of small doses of morphine to allow the patient to lead a useful life. In both cases it was finally given up"

The conclusion stated in paragraph 48 has an obviously important bearing on the consideration of the administrative measures discussed in Section V.

SECTION IV

PRECAUTIONS TO BE OBSERVED IN THE ADMINISTRATION OF MORPHINE OR HEROIN.

50. The position of a practitioner when using morphine or heroin in the treatment of persons who suffer from addiction to either of these drugs obviously differs in several important respects from that in which he is placed when using the drug in the ordinary course of his medical practice for the treatment of persons not so affected. Not only will the objects of treatment usually differ but also the dangers to be avoided, and the precautions that are therefore necessary-. It is thus convenient to discuss these precautions separately as regards :---

(i) The administration of the drugs to persons who are already victims of addiction, and

(ii) The ordinary use of the drugs in medical and surgical practice.

(i) PRECAUTIONS IN THE TREATMENT OF ADDICTS.

51. In the preceding section, the conclusion has been stated that morphine or heroin may properly be administered to addicts in the following circumstances, namely, (a) where patients are under treatment by the gradual withdrawal method with a view to cure, (b) whore it has been demonstrated, after a prolonged attempt at cure, that the use of the drug cannot be safely discontinued entirely, on acount of the severity of the withdrawal symptoms produced, (c) where it has been clearrly demonstrated that the patient, while capable, of leading a useful and relatively normel life when a certain minimum dose is regularly administered, becomes incapable of this when the drug is entirely discontinued

52. Precautions in the Treatment of Addicts by the Gradual Withdrawal Method. - In thise cases the primary object of the treatment is the cure of the addiction, if practicable. The best hope of cure being afforded by treatment in a suitable institution or nursing home, the patient should, if possible, be induced to enter such an institution or home. If he is unable, or refuses to adopt this course, the practitioner must attempt to cure his condition by steady, judicious reduction of the dose. The general lines of the treatment, as carried out by practitioners of special experience, have already been described. For success it is necessary that the patient should be seen frequently, be under sufficient control, and be in the care of a capable and reliable nurse. The practitioner should endeavour to gain his patient's confidence, and to induce him to adhere strictly to the course of treatment prescribed, especially as regards the amount of the drug of addiction which is taken. This last condition is particularly difficult to secure, as such patients are esesentially unreliable and will not infrequently endeavour to obtain supplementary supplies of the drug. If, however, the practitioner finds that he cannot maintain the necessary control of the patient, he must consider whether he can properly continue indefinitely to bear the sole responsibility for the treatment.

53. When the practitioner finds that he has lost control of the patient or when the course of the case forces him to doubt whether the administration of the drug can, in the best interests of the patient, be completely discontinued, it will become necessary to consider whether he ought to remain in charge of the case, and accept the responsibilty, of supplying or ordering indefinitelt the drug of addiction in the minimum doses which seem necessary. The responsibility of making such a decision is obviously onerous and both on this ground and also for his own protection, in view of the possible inquiries by the Home Office which such continuous administration may occasion, the practitioner will be well advised to obtain a second opinion on the case.

54. Precautions in Treatment of Apparently Incurable Cases.- These will include both the cases in which the severity of withdrawal symptoms, observed on complete discontinuance after prolonged attempted cure, and the cases in which the inability of the patient to lead, without a minimum dose, relatively normal life appear to justify continuous administration of the drug indefinitely. They may be either cases of persons whom the practitioner has himself already treated with a view to cure, or cases of persons as to whom he is satisfied, by information received from those by whom they have been previously treated, that they must be regarded as incurable. In all such case the main object must be to keep the supply of the drug within the limits of what is strictly necessary. The practitioner must, therefore, see the patient suffeciently often to maintain such observation of his condition as is necessary for justifyng the treatment. The opinion expressed by witnesses was to the effect that such patients should ordinarily be seen not less freqently than once a week. The amount of the drug supplied. or ordered on one occasion should not be more than is sufficient to last until the next time the patient is to be seen. A larger supply would only be justified in exceptional cases, for example on a voyage, when the patient was going away in circumstances in which he would not be able to obtain medical advice. In all other cases he should be advised to place himself under the care of another practitioner who should be placed in communication with his

previous medical adviser in order that he might be informed as to the nature of the case and the course of treatment which was being pursued.

55. A practitioner when consulted by a patient not previously under his care, who asks that morphine or heroin may be administered or ordered for him for the relief of pain or other symptoms alleged to be urgent, or order the drug unless satisfied as to the urgency, and should not administer or order more than is immediately necessary. If further administration is desired in a case in which there is no organic disease justifying such adtninistration, the request should not be acceded to until after the practitioner has obtained from the previous medical attendant an account of the nature of the case. Requests from one practitioner to another for such information should obviously receive immediate attention.

(ii) PRECAUTIONS IN THE USE OF THE DRUGS IN ORDINARY MEDICAL PRACTICE.

56. The evidence we have heard would appear to indicate that there has been a recent diminuation in the prevalence of morphine addiction, and that this in due to the operation of the Dangerous Drugs Acts in making, it difficult to obtain the drhugs except from or on the prescriptions of doctors. (See para. 24.) This enhances the importance of consideration of the precautions that are necessary in the use of these drugs in ordinary treatment, in order to reduce to a minimum the risk that a patient may develop a craving for them. These precautions are, we think, fairly well recognised among competent and careful practitioners in all branches of the profession, and the conclusions here stated, based on the testimony of our medical witnesses, including representative general practitioners, may, we believe, be regarded as expressing fairly the opinion of all members of the profession who have given the requisite attention to the subject.

57. Where the patient is suffering from organic disease for the treatment of which the drugs are necessary, the matter may be considered under two aspects, (a) cases in which the administration of morphine or heroin may be necessary for an indefinite period and in which the probability of a cure of the disease is remote (c.g., inoperable cancer and the like), (b) cases in which administration of the drugs is called for in order to deal with conditions which, though due to organic disease may be expected to be of a more or less temporary duration (such as renal or biliary colic, etc.). In regard to class (a), since consideration of the possibility of the establishment of a craving cannot be allowed to influence the administration of such doses of the drugs as are considered necessary for the adequate treatment of the organic disease it will be in those rare cases only in which there is some prospect of partial or complete recovery from the disease that any attention can properly be given, during the course of treatment, to such measures as are likely to mitigate or avert the risk of subsequent persistence of any craving which may have been produced. In respect of class (b), the employment of these measures becomes of paramount importance.

They are identical with the discussed in paras: 59 and 60, and consist. mainly in the substitution, when possible, of other drugs for morphine and heroin, in close supervision by the practitioner of the amounts used and of the frequency with which they are administered, and in withdrawal of the drug as soon as the necessity for its administration has ceased.

58. In stating the precautions which we think should be observed in cases other than those referred to in the preceding paragraph, we shall. be understood to have in mind, particularly, those cases in which it is thought necessary to administer, say, morphine, in such doses, with such frequency and for so long a period as may be requisite, for example, for the relief of pain after surgical operations, or in cases of severe neuralgia in which the necesary relief cannot be obtained otherwise.

59. In cases in which it appears that the use of morphine or heroin may be thus desirable, it must first be considered whether the purposes of treatment can be substantially as well served by other drugs that do not involve the risk of addiction. Constant attention is necessary to adjust the dosage to the varying needs of the case. The intervals at which it is desirable to see a patient (not an addict) who requires the administration of morphine or heroin will necessarily be determined by the nature of the case. In cases of chronic disease requiring a more or less prolonged administration of the drugs, the patient need only be seen at such intervals as are appropriate on other medical grounds, butt in cases such as renal or biliary colic, in which the necessity for the administration may cease at any moment, it may be important to see the patient more often than would otherwise be necessary in order to guard against the production of a craving.

The quantity supplied or ordered at one time for use by those nursing the patient should not ordinarily exceed

what will be recquired before the patient is seen again. Where any discretion is given to nurses as to administration it should be strictly limited by prescription, and any change made in the treatment should similarly be stated in writing. The practitioner will realise that the responsibility for administration is entirely his, and cannot properly be delegated to any person not medically qualified, It is desirable also that the patient should not be informed of the name of the sedative drug employed; particularly inexpedient is the handing over to the patient of original packages containing morphine tablets, or the like, which bear on their lables a clear statement of the exact amount in each tablet.. Hypodermic administration of the drug by the patient to himself is to be strongly deprecated.

60. The use of the drug; should. be discontinued as soon as possible, and if unfortunately a craving has formed close supervision and appropriate treatment must be maintained until the medical attendant is satisfied that the patient has been rendered independent of the drug. It is to be noted in this connection, that, in the opinion of some authorities, a month's continuous administration of morphine may suffice to produce in a person who previously appeared normal a condition of addiction; and in persons with an inherent predisposition, administration for a shorter period may have this effect.

61. Most of our medical witnesses have concurred as to the desirabilty of special instruction to medical students on the precautions necessary in the use of morphine and certain other drugs in order to avoid the development of addiction. One or two medical witnesses, on the other hand, expressed doubt whether such instruction might not accentuate the undue timidity which they believed was not uncommon among practitioners, with the untoward consequences above described (see para. 32). We think, however, that such a result need not be feared from a full exposition of the actions, both valuable and harmful, of these drugs, the indications for their use, their proper place in treatment, the dangers to be guarded against, and the best means of averting these dangers. We think also that medical practitioners already in practice should welcome the issue of a Memorandum affording guidance on this important and difficult subject.

SECTION V.
ADMINISTRATIVE MEASURES.

62. We have given careful consideration to the administrative proposals to which the Home Office invited our attention, and to others which witnesses have suggested, or which have occurred to us in the course of our deliberations. as an essential preliminary to this section of our Report, we desire to emphasise the importance in the prevention of addiction of the administrative measures which preclude the importation, manufacture, sale and distribution of dangerous drugs by unauthorised persons, and regulate the procedure of those who are authorised. The administrative measures to which we refer in the following paragraphs relate more particularly to cases in which medical practitioners are concerned, as those upon whom the responsibility for distribution ultimately rests.

CONTROL OF SUPPLY AND PRESCRIBING.

69. Among the most important, and most difficult, of the matters thus requiring attention is that of the administrative action which should be taken in cases in which there is reason to think that a medical. practitioner may be supplying or ordering the drugs otherwise than for medical purposes, properly so called. The question of irregularity in prescribing raises issues, under the Regulations, that are somewhat different from those affecting supply, and it is to "supply" that the immediately succeeding paragraphs relate.

Questions of Apparently Improper Supply.

64. The cases, for consideration may arise in connection with (i) administration or supply to other persons or (ii) administration by the practitioner to himself
These two groups of cases are consistently considered seperately

65. As explained in Section I of this Report (para 6) the drugs to which the Dangerous Drugs Acts relate cannot be possessed by any person not authorised by the Home Secretary for the purpose except, where they are supplied or prescribed by a registered medical practitioner (or in certain cases by registered dentists or registered veterinary surgeons). Further, the drugs cannot be supplied except by a person so authorised. Registered medical practitioners have a general authority to possess or supply the drugs so far only as is necessary for the

practice of their profession.

66. This general authority; to supply and posses may be withdeawn at the discretion of the Home Secretary from individual practitioners who have been convicted of offences under the Dangerous Drugs Acts, but as the Regulations stand at present, withdrawal of authorisation must be preceded by a conviction in the police court. We have been asked to consider the advisability of such modification of the Regulations as would dispense with the necessity for police court action in cases in which the Home Secretary was advised by a suitably constituted Medical Tribunal that the authorisation of a medical practitioner to posess; and supply might properly be withdrawn.

67. We are of opinion that this proposal offers several advantages, both administratively and from the point of view of the medical profession. It is undesirable, in our view, that where it can be clearly shown that, for the public protection, the authorisation of a practitioner should be withdrawn, it should be necessary for the. Home Secretary to take the case to the police court in order to obtain a conviction. We are satisfied that there are many cases which would be adequately met by the withdrawal of the authorisation, without recourse to those penalties of fine and imprisonment which the magistrates have the power to inflict. These penalties we are informed by the Home Office, are in the majority of cases neither necessary nor desired. Further, consideration must be given to the public odium of a criminal trial and conviction which is specially felt when the prosecution takes place in the district in which the doctor practices.

68. Again, it is to be observed that the issue in such cases is essentially medical, namely, whether there was, or was not, justification fot the administration of the drugs in question. A Medical Tribunal would have obvious qualifications for the investigation of such questions which cannot be possessed by lay magistrates, acting without medical assistance other than that of such medical witnesses as they may hear.

69. Also it would in our opinion be advantageous that all cases in England and Wales should be dealt with by one Tribunal., and that there should similarly be one Tribunal to deal with all cases in Scotland; these Tribunals would thus acquire special experience, and be able to apply a uniform standard of judgement.

70. On these grounds we have no hesitation in recommending that the suggested change be made in the Regulations affecting the Home Secretary's power of withdrawal from medical practitioners of the authorisation to possess and supply Dangerous Drugs.

71. We assume that the cases referred to the Medical Tribunal would be confined to those which involved the question of whether the drugs had been supplied, administred or prescribed for other than legitimate medical purposes.

72. After considering various possibilities, we have come to the conclusion that the most suitable Tribunal would be one composed of some medical members, with a legal assesor, and that representative medical bodies should be responsible for the nominations of the medical members.

73. We suggest that, as regards England and Wales, one medical member should be appointed on the nomination of the general Medical Council, one on the nomination of the Royal College of Physicians of London, and one on the nomination of the British Medical association. In Scotland nominations might be made by the General Medical council, the Royal College of Physicians of Edinburgh, and the British Medical Association. It appears to as that the Legal Assessor to
the General Medical Council might properly be appointed Legal assessor
to the Tribunals.

74. In the case of those medical practitionere who are themselves addicted to the abuse of drugs, and whose authority to be in possession of the drugs needs consideration on account of apparently improper use in self-administration, the reasons for reference of the issue to such a Tribinal are in some respects even stronger than in cases of adminisration to others, It will be generally agreed that such practitionere are a source of special danger to the community, and their cases are usually such that avoidance, if possible, of police court, proceedings is particularly desirable. Moreover, the withdrawal of the authorisation to possess the drugs is

specially valuable in the interest of the practitioner himself.

75, We consider, therefore, that a Medical Tribunal consituted on the lines listed above would afford valuable assistance to the Home Office in securing that possession and supply of the drugs by medical practitioners was restricted to that required for legitimate medical purposes, and would enable the Department to deal effectively, and in a manner satisfactory to the medical profession, with cases in which there were strong grounds for believing that a doctor was administering drugs for illegitimate purposes either to himself or to others.

Limitation of Prescribing .

76. We have reserved for seperate consideration the question of measures for dealing with improper prescribing, as distinct from "supply" In the fsrrst place, as has been pointed out in Section I of this Report (para. 17), doubts have arisen whether, under the presenet Regulations, prescribing of the druge is restricted, as are possession and supply to such as is necessary for medical purposes. Such a restriction of prescribing would be in accordance with the given intention of the Acts. Under the Dangerous Drugs Acts a prescription consitutes an authority without which the drugs cannot be supplied. It is obviously necessary that, as in the case of drugs supplied by the doctor himself, drugs should not be ordered except for the express purpose of medical treatment. We recommend therefore, that it should be explicitely provided by the Regulations that a prescription for Dangerous Drugs shall not be given except, bona fide, for medical purposes.

77. Secondly, we have been asked to consider the advisability of power being given under the Regulations to the Home Secretary to withdraw the right to prescribe these particular drugs in certain conditions. It is clearly essential, from the point of view of efficient administration, that some meansshould exist whereby a doctor whose authorisation to possess and supply the drugs has been withdrawn might be precluded also from prescribing them in cases where this further step was thought to be necessary. In the majority of cases in which the authorisation to possess and supply had been withdrawn on account of the doctor's improper administration or supplly of the drugs the object of the wthdrawal, as regards protection of the community, would obviously not be achieved if he were still permittedto prescribe.

78. If our recommendation as to the procedure in the matter of withdrawal of authority to possess and supply were adopted the most simple and direct method of dealing with the question of withdrawal of the right to prescribe Dangerous Drugs would be by providing that cases in which this question arose should be referred to the same medical tribunal as as deals with questions of possession and supply and that power should be conferred on the Home Secretary by the Regulations to withdraw the right to precribe in cases in which the Tribunal so advised and we recommend accordingly.

QUESTIONS OF OBLIGATIONS ON PRACTITIONERS (a) TO NOTIFY (b) TO OBTAIN SECOND OPINION

79. We have considered whether certain special obligations should be placed by the Regulations on medical practitioners when engaged in the treatment of persons to whom morphine or heroin is being administred continuously, without other necessity than for the relief of the symptoms of addiction. The possible obligations thus considered are (a) that, of notifying such cases to the Home Office and (b) that of obtaining a second medical opinion in certain circumstances.

80. The primary object of a system of notification would be to enable the Home Office more readily to detect cases in which patients were obtaining, the drug of addiction from two or more doctors concurrently, a practice which not only contravenes the intention of the Acts, but is obviously prejudicial to the best interests of the patient. A requirement of notification would no doubt tend also to diminish doubtfully justifiable supplying or ordering of the drugs. Moreover it would assist practioners to excercise firmer control over their patients and would tend to relieve practioners who were acting in good faith from suspicion, and from the liability to unknown inquiries, which at present are unavoidable.

81. Against these advantages have to be weighed the inherent disadvantages of all forms of notification in impairing the confidential character of the relation of doctor and patient. The objections to notification on this ground have been regarded as outweighed in many other connectionsi by what were deemed by public opinion and by the Legislature to be more important interests of the community and of patienits themselves; but

each proposal for extension of this principle
to a new group of cases must be considered on its merits.

82. In the present instance we are not satisfied the benefits of the notification would suffice to outweigh the attendant disadvantages. In abstaining from reccommending such a measure we have had regard to the relative infreqency of morphine or heroin addiction in this country at the present time, to the evidence of decrease of the number of cases since the introduction of legislative restrictions, to the expectation that the further operation of the present restrictions on supply, coupled with greater care by practitioners in the use of the drugs in treatment, may go a long way to exinguish the evil, and to the view expressed by the Home Office that notification, though it would be useful is not essential for detecting persons who obtain drugs of addiction from more than one doctor at a time. At the same time we consider that every practitioner prescribing morphine or heroin for the first time to a patient who does not require the drugs except for the treatment of symptoms produeed by addiction will be well advised, in his own interest and in those of the patient, to make inquiries from that patient as to the source from which he obtained or is at the time obtaining, the drugs in question, and as to the names and addresses of practitioners under whose care he is, or has been.

83. We have considered whether it would be advisable to provide by Regulations that a practitioner should obtain a second medical opinion before consenting to administer morphine or heroin for an indefinite time to a person who does not need them otherwise than for the relief of symptoms of addiction. It has been suggested that this would tend to secure better observance of suitable precautions in the medical use of the drug.

84. We have been impressed by the fact that most of the medical witweses we have heard are of opinion that a second opinion should be obtained in such cases, if practicable, both from the point of view of advantage to the patient, and for the protection of the doctor if his conduct in ordering the drugs should be subsequantly called in question.

85. We do not, however, think it necessary or desirable that any obligation of this kind should be imposed by Regulations. We believe that it will suffice and is eminently desirable that an effort should be made to impress upon the profession generally, the extreme advisabilty of obtaining a second opinion, in these cases and it is conconsidered that this might well be ragarded more or less in the light of a professional obligation, such as is already generally recognised to exist in cases in which certain operations such as the emptying of the pregnant uterus, are contemplated. The evidence including that given on behalf of the British medical Association, justifies the belief that there would be general support in the profession for this proposal.

86. It is understood that in the case of patients who cannot afford the costs of a second opnion, or where there might be difficulty in obtaining such an opnion, the Ministry of Health would be prepared to place the services of their Regional Medical Officer at the disposal of the patient and the practioner if desired.

87.Two alternative measures which we have considered have presented less difficulty, and may be examined more shortly.

RECORDS OF PURCHASES BY NON-DISPENSING DOCTORS.

88. The requirement (referred to in para 17) that doctors who do not dispense drugs should keep a simple record of purchases would doubtless entail a slight burden of book-keeping upon a section of the profession who are at present free. We gather, however, that it would suffice for the purpose if the invoices of such purchases were pasted in order in a book, so as to minimise the work entailed. Doctors who dispense are required to keep a record not only of Dangerous Drugs purchased, but also of those supplied otherwise than by personal administration. Such records facilitate investigation of cases calling for inquiry. In the case of doctors who do not dispense there is at present no corresponding record, and we understand that administration is to some extent hampered in consequence We think the proposed requirement would overcome a defect in the present system which should be remedied in the manner suggested.

COMMUNICATION TO WHOLESALE HOUSES OF NAMES OF DOCTOR-ADDICTS.

89. As a further measure for dealing with the case of the doctor addict, we have been asked to consider whether it would be desirable that a list of such doctors should be supplied to wholesale chemists with a request that they

would inform the Home Office of purchases made by doctors on the list. We foresee grave objections to carrying out such a proposal, and do not recommend its adoption.

SECTION VI

PREPARATIONS AT PRESENT EXCLUDED FROM THE SCOPE OF THE DANGEROUS DRUGS ACTS.

90. In the course of our investigations it came to the notice of the Committee that cases of addiction were said to result from the consumption in large quantities of preparations containing morphine and heroin of a percentage lower than that which would bring them within the scope of the Acts. We deemed it advisable to inquire more fully into this question, and our Terms of Referee were accordingly extended as follows :-

" To consider and advisse whether it is expedient that any or all preparations which contain morphine or heroin of a percentage lower than that specified in the Dangerous Drugs Acts should be brought within the provisions of the Acts and Regulations and is so under what conditions"

Since this reference was received the Committee were informed that at the Geneva Conference in February, 1925, under the auspices of the League of Nations, this country assented to an International agreement to abolish the limit of 0.1 per cent in respect of heroin and to bring within the scope of the Dangerous Drugs legislation all preparations of heroin without distinction of percentage. This has been effected by the Dangerous Drugs Act, 1925.

We have, therefore, thought it unnecessary to consider preparations of heroin under this part of our reference.

91. With reference to preparations of morphine we have taken evidence not only from many of the medical witnesses who have appeared before us, but also from representatives of wholesale and retail chemists, from the Pharmaceutical Society of Great Britain and from the Society of Apothecaries.

92. This evidence points in our view emphatically to the conclusion that there is very little, if any, abuse of preparations of this kind other than chlorodyne. Our further observations in this Section relate, therefore, to this substance.

93. "Chlorodyne," as is well known, is the trade name originally given to a preparation introduced by Dr. J. Collis Browne. Since the proprietary rights expired, several preparations are now sold under the name. Most of these contain morphine in various strengths, and the morphine content of particular preparations appears to vary from time to time. Most of them now contain morphine in a strength under 0.2 per cent, and, therefore, are exempt from the restrictions of the Dangerous Drugs Acts, although in most cases they approach very closely to the limit. Thus they can be, and are, sold freely in chemists' and other shops.

94. The evidence appears to show that the quantity of these preparations sold to the public since the passing of the Dangerous Drugs Acts has not increased and is, in fact, tending to decrease.

95. Certain medial witnesses considered that there was some possibility of abuse of chlorodyne, and some stated that they had met with cases of drug addiction which, in their opinion, were due to the consumption of one or other of the preparations of chlorodyne.

96. A number of the medical witnesses on the other hand took the view that chlorodyne was a valuable domestic remedy, and widely used in cases of minor complaints, and that, while there might be related instances of abuse, it did not, except perhaps in rare instances, result in the formation of a drug habit.

97. It was further suggested by some witnesses that, as the amount of morphine contained in the preparation is so small, the amount of chlorodyne which it would be necessary to consume in order to satisfy craving for drugs would be large, and that it would be an expensive and indeed, an inconvenient method of gratifying addiction.

98. The fact, however, cannot be ignored that, though the cases are few, chlorodyne is used as a drug of addiction, possibly as a result of the ease with which it can be obtained and the difficulty of obtaining morphine. The tendency, moreover, so to use it may increase, as the difficulties of obtaining morphine in other forms

increase through the administration of the Dangerous Drugs Acts. We think, therefore, that there is a case for considering whether in some way the abuse of this particular substance can be checked, though not necessarily by the adoption of the measure specified in our supplementary reference.

99. it was represented to us that the Labelling of Poisons Order, which comes into force in January 1926, would require the morphine content of the preparation to be clearly stated on each bottle, with the result that the public and medical practitioners would be better informed than is at present possible as to the exact composition of the preparation which is being taken or prescribed. it was not, however clear to us that the operation of this Order would deter such persons as at present use chlorodyne for purposes of. addiction from continuing to use it.

100. It was urged by some witnesses that if any restrictions on the sale of chlorodyne are found neccesary they should take the form of requiring a definite standard of morphine content to be established and that the standard should be such as to bring the preparation automatically within the scope of the Dangerous Drugs Acts. This proposal would have the effect of rendering chlorodyne of that strength unobtainable by the public except on a doctor's prescription, and of preventing the sale of similar preparations of lower strength under the name of cholrodyne.

101. An alternative that seems to us well worth consideration is that of fixing a standard of morphine content of preparations sold under the name of chlorodyne which should be well below the limit of the Dangerous Drugs Acts, say 0.1 per cent. This would make the risk of use of such preparations for addiction purposes negligible and would not interfere with the free sale of the substance as a domestic remedy. It would contain sufficient morphine for the purpose for which it can safely be so used. and where more morphine was necessary it would be obtained under medical advise.

102. Another way of achieving the same result would obviously be to fix the limit under the Dangerous Drugs Acts at 0.1 per cent. instead of 0.2 per cent, as at presentt. There is no evidence however, of the use for addiction purposes of any preparation, other than chlorodyne, in the zone of strength between 0.1 per cent and 0.2 per cent.
This may be because chlorodyne is so widely known and relatively pleasant to take.

103. Our conclusions on this part of our reference are
(i) That there is in our opinion no evidence to necessitate bringing all preparations of morphine within the scope of the Dangerous Drugs Acts, or lowering the standard of strength at present fixed by the Acts.
(ii) That there might be some advantage in securing in some way that no preparation should be sold under the name of chlorodyne which contains more than 0.1 per cent of morphine.

CONCLUSIONS AND RECOMMENDATIONS
MEDICAL QUESTIONS:

(1) Prevalence of Addiction - Addiction to morphine or heroin is rare in this country and has diminished in recent years. Cases are proportionally more frequent in the great urban centres among persons who have to handle those drugs for professional or business purposes, and among persons specially liable to nervous and mental strain. Addiction is more readily produced by the use of heroin than by the use of morphine, and addiction to heroin is more difficult to cure.

(2) facility of access is an important factor in the production of addiction, and the recent diminuation in the number of addicts to both these drugs is largely attributable to the restrictions imposed by the Dangerous Drugs Acts (paras 22-26)

(3) Nature and Causation of Addiction.- With few exceptions addiction to morphine and heroin should be regarded as a manifesatation of a morbid state, and not as a mere form of vicious indulgence (Para 27.)

(4) The immediate cause of addiction is the use of the drug for period sufficient to produce the constitutional condition manifested by "craving" and the occurance of withdrawal symptoms when the drug is discontinued. Addiction is more readily in some persons than others, the most important predisposing cause being

an inherent mental or nervous instability. There is evidence however, that addiction may be induced by injudicious use of the drug in a person apparently free from any manisfestation of nervous or mental disability, and, conversly that due care in administration may avert this result even in the unstable. other predisposing causes are chronic pain or distress, insomnia, overwork and anxiety (paras 30)

(5) In a considerable proportion of cases the circumstance which has immediately led to addiction has been the previous use of the drug in medical treatment. Other circumstances noted have been self-treatment for the relief of pain etc, recourse to drugs in emotional distress, influence of other addicts, and indulgence for the sake of curosity or the experience of pleasurable sensations. cases of addiction originating in use of the drugs otherwise than under medical orders must be expected in future to be less frequent than in the past (Paras 31-34)

(6) Treatment and Aftercare.- While the most eminent authorities differ as to the relative value of (a) abrupt or rapid withdrawal of the drug and (b) gradual withdrawal in the cure of addiction, the following conclusions may fairly be drawn from the evidence;-

(a) Abrupt or rapid withdrawal cannot be carried out safely except under conditions which afford complete control of the patient's access to the drugs and close and continuous observation of the effects of the treatment, such as are usually to be found only in special institutions or nursing homes.

(b) gradual withdrawal will therefore with rare exceptions be the only practcable method under the ordinary conditions of private practice and the only one applicable to patienst who cannot afford or are, for other reasons unwilling to enter institutions or nursing homes.

(c) Abrupt withdrawal may be adviable for young otherwise healthy adults in whom the addiction of recent date and so far has entailed moderate doses only, in other cases gradual withdrawal is on the whole to be prefreed even under institutional conditions.

(d) Abrupt withdrawal is especially dangerous in old or seriously debilitated persons, patients with organic disease and those taking exceptionally large doses.

(e) Institutional treatment, while with rare exceptions indispensable for the abrupt method, also affords the best hope of cure by the gradual method, and patients should always, if possible, be induced to undergo treatment in an institution or nursing home.

(f) Success in enabling any patient, by either method, to become (for the time being) independent of the drug must be regarded as the completion of the first stage of treatment only. For permanent cure a prolonged period of aftercare is necessary, in order to educate the patient's willpower and to change his mental outlook. For this part of the treatment information should be obtained by a close investigation, during the first stage of the conditions which brought about the addiction, and if a factor, such as pain or insomnia, contributed to the causation, every effort must be. made to remove or cure this before the patient is released from observation. Attention must also is paid to the possbility of improvement in the patient's social conditions (paras 31 -32)

(7) Prognosis. Estimates of the proportion of completed cures of cases treated vary from 15 or 20 per cent. to 60 or 70 per cent., the highest percentages being claimed by practitioners adopting the abrupt method who had carried out the treatment in institutions or nursing homes (para 43 and 44)

CIRCUMSTANCES IN WHICH MORPHINE OR HEROIN MAY LEGITIMATELY BE ADMINISTRED TO ADDICTS

(8) There are two groups of persons suffering from addiction whom administration of morphine or heroin may be regarded as legitimate medical treatment.. namely:

(a) Those who are undergoing treament for cure of the addiction by the gradual withdrawal method ;

(b) Persons for whom, after every effort, has been made for the cure of the addiction, the drug cannot be completely withdrawn, either because:

(i) Complete withdrawal produces serious symptoms which cannot be satisfactorily treated under the ordinary conditions of private practice; or

(ii) The patient, while capable of leading a useful and fairly normal life so long as he takes a certain non-progressive quantity, usually small, of the drug of addiction, ceases to be able to do so when the regular allowance is withdrawn. (Paras 45-49.)

PRECAUTIONS REQUISITE IN THE ADMINISTRATION OF THE DRUGS TO ADDICTS.

(9) Under treatment by the gradual withdrawal method the addict should, if possible, be induced to enter a suitable institution or nursing home. If this is not feasible the practitioner must attempt to cure the condition by a

steady judicious reduction of the dose, with a view to ultimate complete withdrawal. The patient should be kept under close observation by the practitioner should be in the care of a capable and efficient nurse and under sufficient control to preclude any possibility of obtaining supplies of the drug other than those medically ordered.

(10) If the practitioner finds that he is losing the requisite control, or tile course of the case indicates a probability that complete cure cannot be effected, he will be well advised to obtain a second opinion before assuming the responsibility of indefinitely prolonged administration

(11) Where indefinitely prolonged administration appears to be needed the main object must be to keep the supply of the drug within limits of what is necessary.

(12) The practitioner should be satisfied as to urgency before administring or supplying morphine or heroin to a patient concerning whom he has no previous knowledge and careful inquiries should be made from the patient, at the beginning. as to previous or concurrent sources of supply. The minimum dose necessary should be administred and (unless organic disease is present) repetition withheld until the the practioner has obtained from the previous medical attendant details on the nature of the case. (Paras. 51 - 1íi.)

PRECAUTIONS TO BE OBSERVED IN THE USE OF THE DRUGS IN ORDINARY MEDICAL TREATMENT.

(13) We recommend that the following precautions should be taken in the use of morphine and heroin in ordinary medical practice

(a) Regard should be had at all stages of the case to the possibility of substituting for morphinte or heroin, either temporarily or permanently, drugs which do not involve the risk of the development of addiction.

(b) If the use of morphine or heroin is essential, care should be taken not to give larger or more frequent doses, than are strictly requisite to achieve the object in view.

(c) Cases requiring the daily administration of morphine or heroin should be seen as often as the doctor feels to be necessary, and the amount ordered or supplied should not exceed that required until the patient is seen again.

(d) Discretion to nurses as to administration of the drugs should be strictly limited by prescription, and any change made in the treatment should be stated in writing.

(e) The patient should not be informed either of`the name or dose of the drug administered. Whenever other methods of administration will produce the desired effect, hypodermic injections should be avoided.

(f) In no circumstances should the patient be allowed to administer the drug to himself hypodermically.

(g) The use oĺ the drug should be discontinued immediately if it is no longer needed.

(h) if a craving has unfort:unately resulted from use of the drugs, close supervision and appropriate treatment should be maintained until the medical attendant is satisfied that the patient has been rendered independent of the drug. (Paras 50-51.

(14) Valuable results might come from the judicious instruction of medical students in the precautions necassary to avoid the production of addiction to morphine and certain other drugs. medical men already in practice should welcome the issue of some authorative Memorandum affording guidance upon this difficult and important subject and we therefore recommend that such a Memorandum be issued. (para 61)

ADMINISTRATIVE MEASURES

(15) Withdrawal of Authorisation to Possess and Supply.- The present position under which a doctor's authorisation to possess and supply the drugs can only be withdrawn after a conviction under the Dangerous Drugs Acts is not satisfactory, either administratively or from the point of view of the medical profession

We recommend that the Home Secretary should have power to withdraw the authorisation without conviction in the Courts if so advised by a suitably constituted medical tribunal.

We recommend that Tribunals should be constituted whose function it would be to consider whether or not there were sufficient medical grounds for the administration of the drugs by the doctor concerned either to a patient or to himself, and that they should advise the Home Secretary whether the doctor's right to be in possession, to administer and to supply should be withdrawn

We recommend that there should be seperate Tribunals for:

(i) England and Wales

(ii) Scotland;

and that they should be composed of one member nominated by the general Medical Council, one by the

appropiate College of Physicians and one by the British Medical Association with a legal assessor. (Paras 62-75)

(16) Control of Prescribing. - Any doubt there may be as to the power of the Home Secretary under the present Regulations to control the prescribing of Dangerous Drugs should be removed by a suitable amendment to the Regulations, and we recommend accordingly

The Home Secretary should also have power after the conviction of a doctor in the Courts for an offence under the Dangerous Drugs Acts or on the advice of a Medical tribunal to withdraw the practioner's authorisation to prescribe dangerous Drugs, and we recommend that this amendment to the Regulations be also made (Paras 75-76)

(17) Obtaining of Second Opinions.- In the interests of patients and of practioners themselves it is desirable that the practice should be generally followed of obtaining second opnions before undertaking the responsibilty of continuing to administer drugs in cases in which there is no medical reason for doing so other than treatment of an addiction. This applies also to the group of cases in which the patient needs indefinite administration of the drug for the purpose of enabling him to lead a normal and useful life. The Regulations should not however require a practioner to obtain a second opnion but it should be regarded as a professional obligation such as is generally recognised in respect of the decision to carry out certain other forms of treatment (paras 79-87)

(18) Record of Purchases by Non-dispensing Doctors.- Doctors who do not dispense should be required to keep a simple record of their purchases of Dangerous Drugs and this could most easily be done if the invoices of purchases were pasted in a book. We recommend that the Regulations be amended accordingly (para 88)

PREPARATIONS AT PRESENT EXCLUDED FROM THE SCOPE OF THE DANGEROUS DRUGS ACTS

(19) There is little if any abuse or danger of addiction arising from any preparations at present excluded from the scope of the Dangerous Drugs Acts with the possible exception of chlorodyne As regards this preparation there was considerable difference of opnion, but the evidence appears to show that the free sale of the preparation as a common domestic remedy has given and does give rise to certain risks of addiction. (Paras 90-102)

(20) There is no present need for the prevention of addiction to decrease the limit of morphine content now fixed by the dangerous Drugs Acts

The position as regards chlorodyne would be met if it should be secured in some way that no preparation should be sold under the name Chlorodyne which contained more than 0.1 per cent of morphine (Para 103)

Finally the Committee wish to record their high sense of the services of the Secretaries Mr R.H. Crooke and Dr E.W. Adams

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